IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
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Walter KUHN, et al.	:	Group Art No.: 1621
	:	
Serial No.: 10/525,050	:	
	:	Examiner: K. Gale
Filed: August 20, 2003	:	
	:	
For: METHOD FOR PRODUCING MENTHOL	:	

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This is in response to the December 27, 2006 Office Action.

The Action asserts that the manufacture of d-isomenthol with the catalyst disclosed in GB Patent No. 1,503,723 (GB '723) with a modifying salt used as a room temperature pretreatment or feedstock additive is the same as the present process for making d,l-menthol with a doped catalyst at generally higher temperatures. Applicants respectfully traverse.

Doping is a defined term in this art and should not be equated with either a deactivation pretreatment or *in situ* contact with a salt solution. For example, Wegener, US Patent No. 6,395,934 describes doping in column 1, lines 17-26. As an alloy, aluminum with nickel and, optionally, one or more further sub-group metals are usually used as the starting material for the preparation of Raney Nickel (RaNi) catalysts. The alloy is obtained, for example, by fusion or

reactive grinding of the starting metals. RaNi catalysts are "doped" by forming alloys with other metals at temperatures above 600 °C.

In contrast, GB '723 teaches that the pretreatment occurs by contact at room temperature (25 °C) followed by immediate use. See page 5, line15 to 17. The *in situ* contact occurs at the disclosed hydrogenation temperatures up to 150 °C (page 5, line 42). Such temperatures will not form the present catalyst and will not create the controlled composition that is found in a doped catalyst.

The differences in catalyst is reflected by the differing products of GB '723 and the present invention. GB '723 is highly selective for production of d-isomenthol. The invention forms a racemic mix of d,l-menthol. Compare GB '723 in page 1 at line 8 to 10, page 3 lines 43 to 45 and in Example 1, page 6 lines 27-30 with the present case on page 2 lines 20 to 26 and Examples 1-7.

Additionally, the data of record shows that the combination of chromium (Cr) and iron (Fe) to the nickel catalyst produces a combined effectiveness that is greater than the sum of their individual components. Table 1 (pp. 5-6) shows that Ra-Ni-Cr catalyst produced 11.8% menthol, and the Ra-Ni-Fe catalyst produced 4.3% menthol. Their combination might be expected to produce possibly the sum of these effects: 16.1%. Instead, their combined presence produced 27.3% - over 50% greater than the sum of their individual effects. The same is not true for the production of d-isomenthol: the Ra-Ni-Cr-Fe catalyst did not provide even a cumulative effect. (We note that GB '723 does not exemplify the use of both Cr and Fe on the catalyst.) Such a result is classic indicia of nonobviousness by unexpected results.